D-Link

Version 1.0 06/12/2014

User Manual

Wireless AC1200 Dual Band PCI Express Adapter

DWA-582

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Package Contents

D-Link DWA-582 Wireless AC1200 Dual Band PCI Express Adapter

Two Antennas

Low Profile Bracket

CD with drivers and software

If any of the above items are missing, please contact your reseller.

System Requirements

- A desktop computer with an available 64-bit PCI Express slot
- 1Ghz processor / 512 MB RAM / 200 MB available space / CD-ROM drive
- Windows® 7, Vista®, or XP (Service Pack 2 or higher)
- An access point or wireless router

Introduction

The Dwa-582 Wireless AC1200 Dual Band PCI Express Adapter is a convenient wireless connectivity solution for desktops. The device installs into a desktops PCI Express slot.

The Dwa-582 provides a fast wireless connection and a superior reception, 802.11n. The Dwa-582 is designed for use in homes and small businesses that demand higher networking. Maximize wireless performance by connecting the Wireless N 300 Dual band PCIe Desktop Adapter to a wireless N router and stay connected. The Dwa-582 supports WEP, WPA and WPA2 enhanced security. This feature greatly enhances personal data and prevents outside intrusion.

The dual band technology in the Dwa-582 supports 2.4GHz or 5GHz wireless signals. This allows you to check e-mail and browse the Internet using the 2.4GHz band or stream HD movies and other media on the 5GHz band. The 5GHz band helps avoid interference by providing a cleaner wireless band for HD signals.

*Maximum wireless signal rate derived from IEEE Standard 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.

Features

- **Faster Wireless Networking*** - Enable wireless connectivity on your Desktop PC computer with the Dwa-582. With the performance of D-Link's Wireless N line of wireless products, the Dwa-582 delivers an unsurpassed wireless experience. Perform multiple network tasks at once with the speed provided by this Wireless Adapter.

- **Compatible with 802.11g Devices** - Fully compatible with the 802.11g standards, the Dwa-582 can connect with existing 802.11g compliant routers, access points and cards. That means you can still communicate with colleagues and friends while you have the ability to link to even more wireless networks.

- **Better Security with WPA/WPA2** - With the Dwa-582 in your Desktop PC, you can securely connect to a wireless network using WPA/WPA2 (Wi-Fi Protected Access) for wireless authentication. WPA/WPA2 provides you with a much higher level of security for your data and communication than what has previously been available.

- **Total Performance** - Upgrade your computer with the latest 802.11n technology.

- **Total Wireless Protection** - Connect to secure wireless networks using WPA and WPA2.

- **Total Connection** - Operates on the 2.4GHz and the 5.15 ~ 5.85GHz frequency.

*Maximum wireless signal rate derived from IEEE Standard 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.

Hardware Overview

LEDs

1	Antennas	Two antennas for better coverage.
2	WLAN LED	A solid light indicates that wireless is ready. This LED blinks during wireless data transmission.
3	PCIe Connector	The PCIe connector will fit into the PCI Express slot on your computer.

Installation

This section will walk you through the installation process. If you have a built-in wireless adapter, please disable it in device manager before installing your D-Link adapter. Also, if you have previously installed another wireless adapter, please make sure any software is uninstalled.

Getting Started

Before installing your new D-Link wireless adapter, please verify the following:

- Remove any previous installations of wireless adapters
- Disable any built-in wireless adapters
- Verify the settings such as the SSID and security settings of the network(s) you want to connect to

Remove Existing Installations

If you've installed a different manufacture's adapter or a different model D-Link adapter, make sure the software is uninstalled before installing the new software. Some utilities may cause a conflict with the new software. If you plan to use multiple adapters at different times, make sure the utilities are not set to load when your computer boots up. Windows® 7, Vista® and XP users may use the built-in wireless utility for all adapters.

To remove any old software:

Windows® 7 users: Click **Start** > **Control Panel** > **Uninstall Programs**.

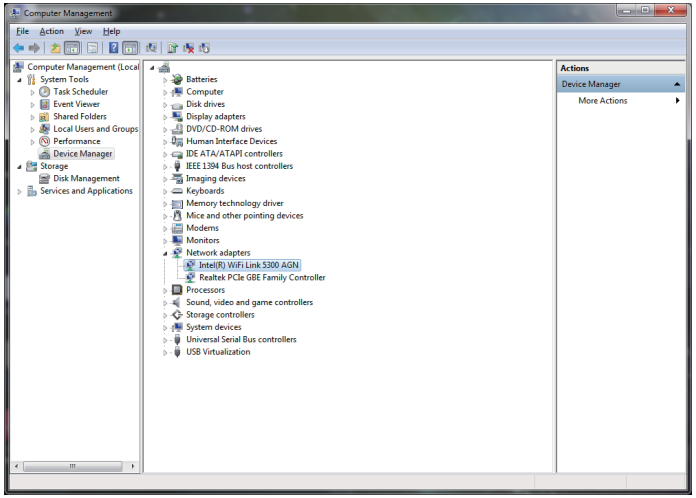
Windows Vista®/XP users: Click **Start** > **Control Panel** > **Add or Remove Programs**.

Disable Other Wireless Adapters

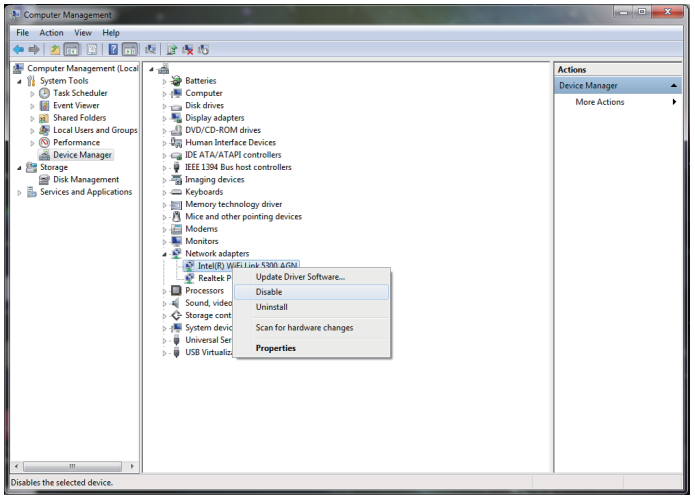
To prevent any conflicts with the D-Link wireless adapter, it is recommended to disable any wireless adapter (as well as any unused Ethernet adapters).

From the desktop, right-click on the **My Computer** icon and select **Properties**.

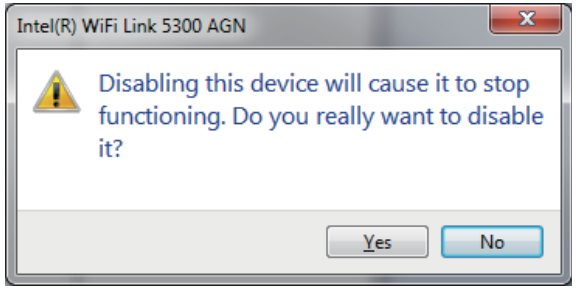
Click the **Hardware** tab and then click **Device Manager**. Scroll down the list and click the **+** sign to the left of **Network Adapters**.



Right-click the adapter you would like to disable and select **Disable**.

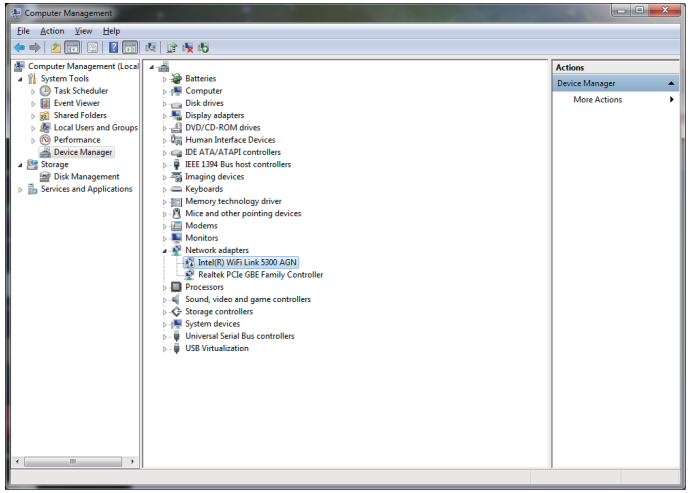


Click **Yes** to disable the adapter.



The adapter is now disabled. When disabled, a **red X** will be displayed.

Disabling the adapter will not remove the drivers. If you would like to use the adapter, simply right-click it and select **Enable**.



Wireless Installation Considerations

The D-Link wireless adapter lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. Keep in mind that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the D-Link adapter and other network devices to a minimum - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.

2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.

3. Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.

4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.

5. If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone in not in use.

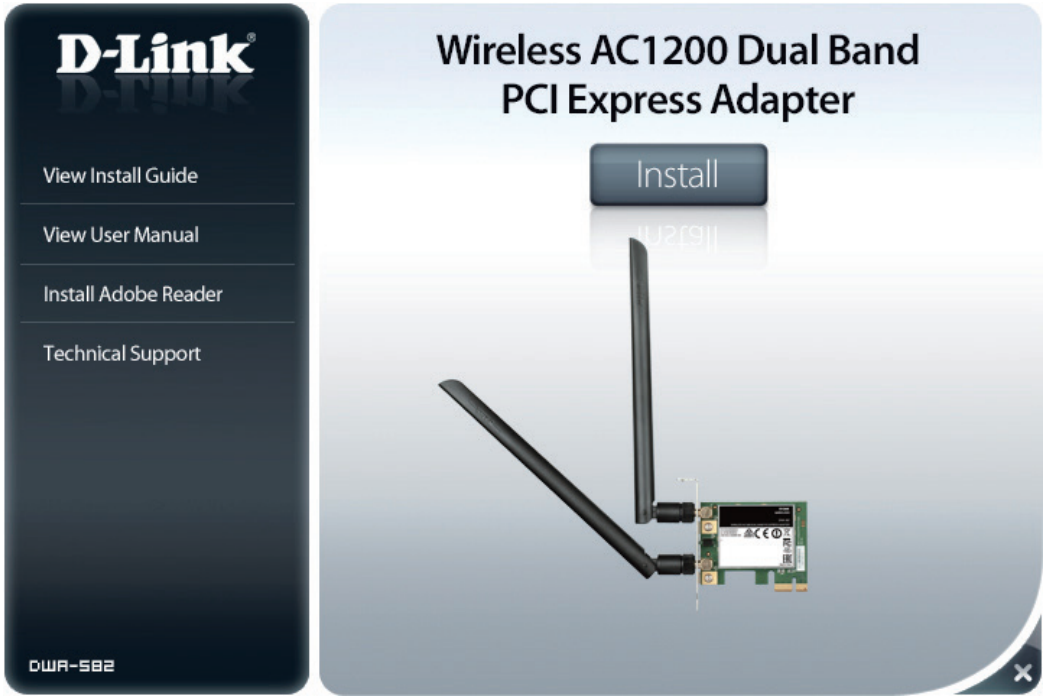
Driver/Software Installation

Note: *Please install the drivers before physically installing the adapter into your computer.*

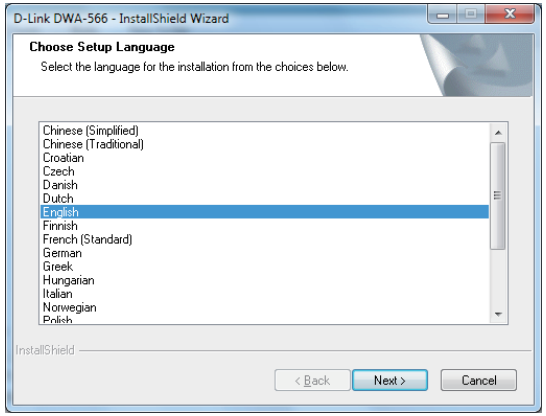
Turn on the computer and insert the D-Link Dwa-582 Driver CD in the CD-ROM drive. The step-by-step instructions that follow are shown in Windows Vista®. The steps and screens are similar for the other Windows operating systems.

If the CD Autorun function does not automatically start on your computer, go to **Start** > **Run**. In the run box type "**D:\autorun.exe**" (where ***D:*** represents the drive letter of your CD-ROM drive).

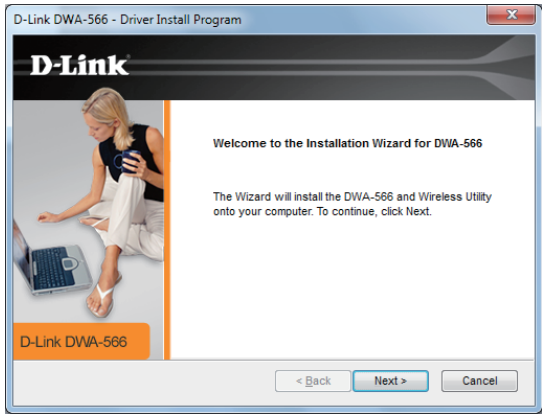
Click on **Install** to begin.



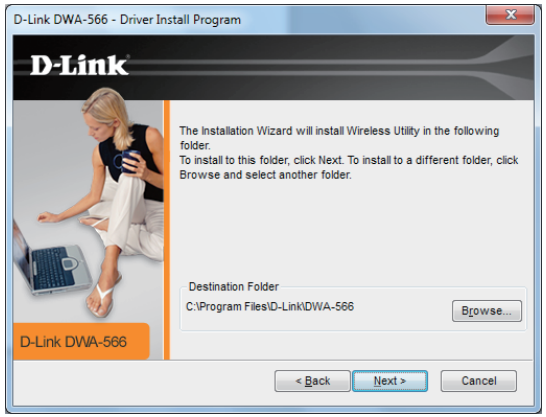
Select your language and click **Next** to continue.



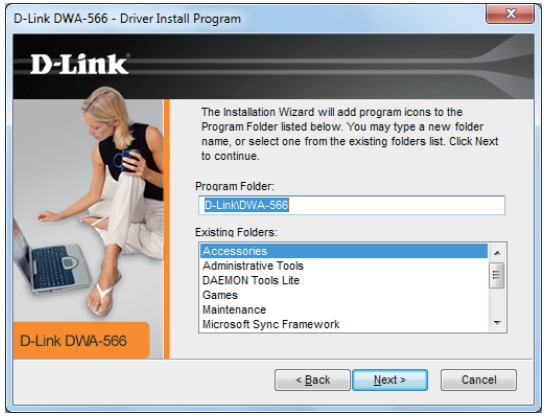
At the Welcome Wizard screen, click **Next** to continue.



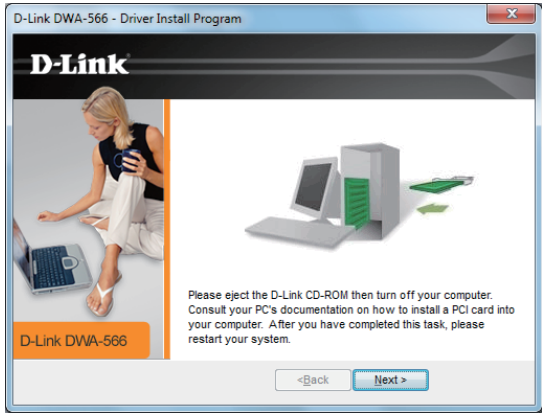
By default setup will install to the default location: *C:\Program Files\D-Link\Dwa-582*, where C: represents the drive letter of your hard drive. To install to a different location click **Browse** and specify the location. Click **Next**.



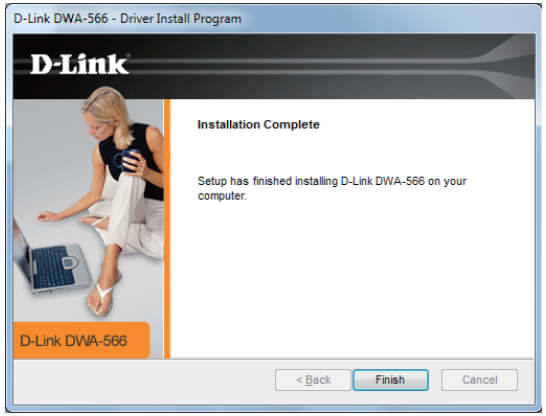
Select the Program Files folder location. Click **Next** to continue. The drivers will install. This may take 1-2 minutes.



Once the drivers are installed, click **Next** to continue.

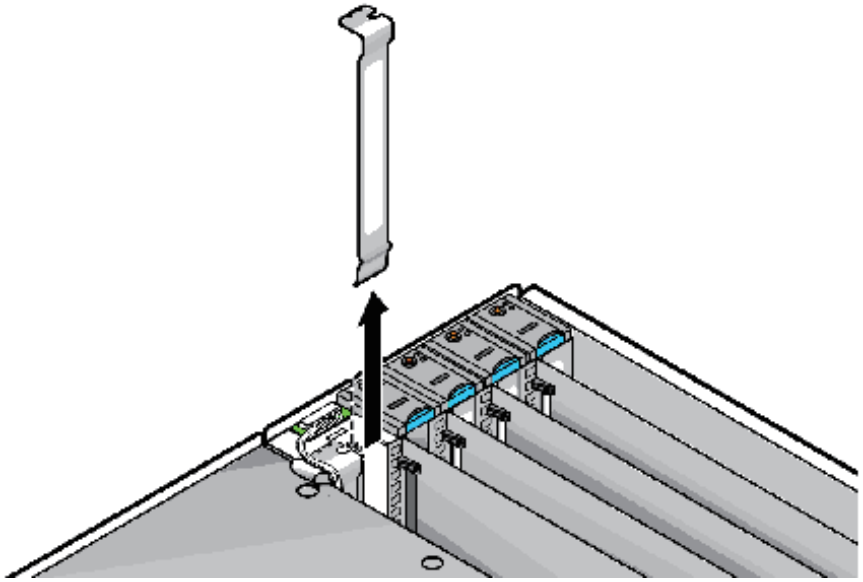


Click **Finish** to complete the driver installation. You can now install the adapter into your computer. Please turn off and unplug the power to your computer.



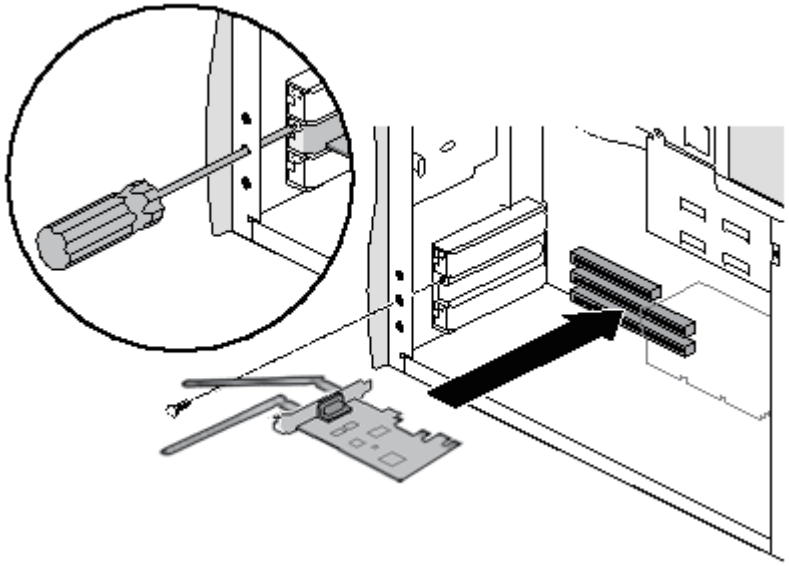
Hardware Installation

Step 1 - Open the side panel of your computer and then remove the metal cover bracket on your PCI Express slot.



Step 2 - Insert the Dwa-582 firmly into the PCI Express slot and screw it in place. You may either leave the antennas on or unscrew them to make it easier to install.

Step 3 - Replace the computer case cover and plug the power back. If you took off the antennas during installation, re-attach them now.



Connect to your Wireless Network

Step 4 - Turn on your computer. The Wireless Connection Wizard starts automatically once the PC is powered on. Alternatively, double-click the "Wireless Connection Wizard" icon on your desktop or click **Start** > **All Programs** > **D-Link** > **Wireless Connection Wizard**.

Step 5 - If your wireless router or access point has WPS, select **Use the WiFi Protected Setup (WPS) wizard for simplified Wireless connection** and click **Next**.

If you are not going to use WPS, select **Manually type your Network Name (SSID) and Password (Encryption Key)**, click **Next** and then skip to page 18.

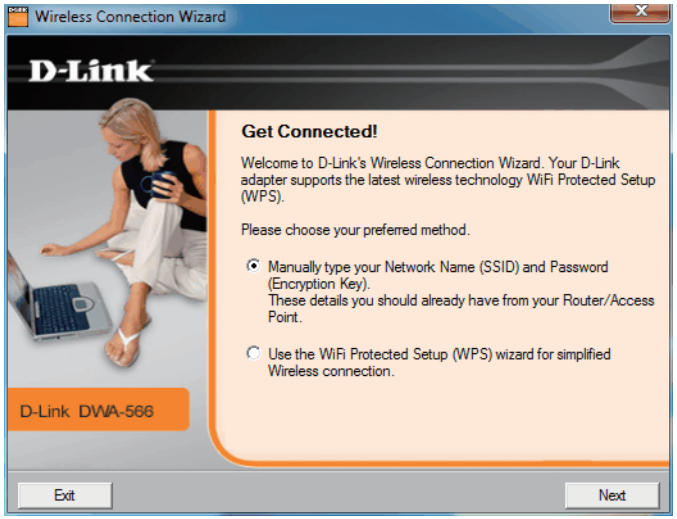
Step 6 - Press the WPS button on your wireless router or access point. If you have a D-Link router, find the WPS button on the right side of the router.

Once pressed, go back to your computer and click the **Connect Now** button on the screen. You must click the button within 2 minutes of pressing the WPS button on your router or access point.

Step 7 - Once the connection is successful, the screen will automatically indicate that the Dwa-582 has connected to your router or access point. Click **Finish** to complete the connection process.

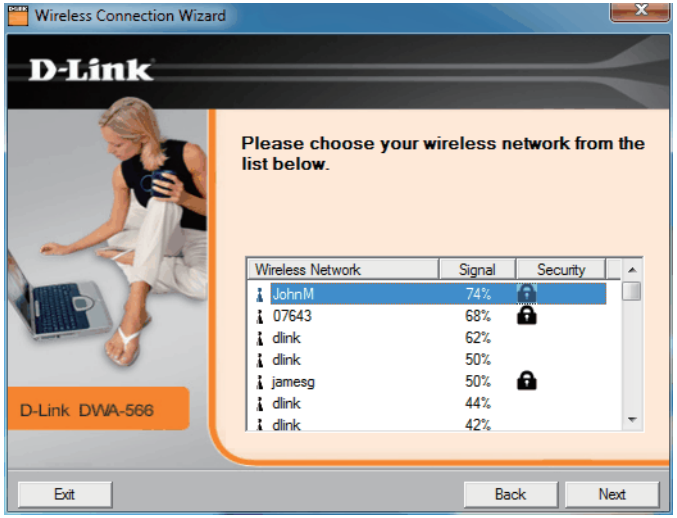
Manual Connect

To manually connect to your wireless network, select **Manually connect to a wireless network** and then click **Next**.



Enter the network name (SSID) manually. If you enter the SSID incorrectly, you will automatically be brought to the site survey page. Click **Scan** to display the site survey page. Click **Next** to continue.

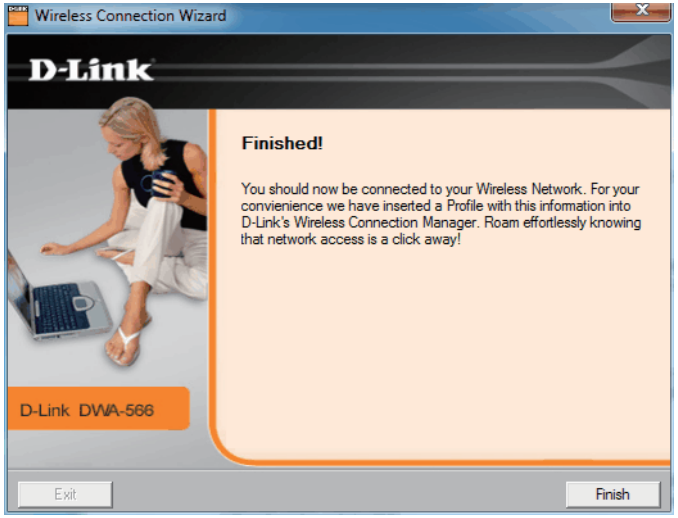
Click the **Scan** button to display a list of wireless networks (site survey). Click on the network name (SSID) and click **Next**.



If the wireless network you want to connect to has a lock icon, you will need to enter the encryption password. Click **Next** to continue.

Note: *Click "Show text in the password field" to display the characters that you type in the space provided. If you choose not to select this checkbox, the characters that you type in the field provided will be in asterisk (*) form.*

Click **Finish** to continue. If you are prompted to reboot your computer, select **Yes, I want to restart my computer now**.



Configuration

This section will show you how to configure your new D-Link wireless adapter using the D-Link Utility as well as Windows® XP Zero Configuration and Windows 7/Vista® WLAN Auto Configuration.

D-Link Wireless Connection Manager

The D-Link Dwa-582 uses the Wireless Connection Manager as the management software. The manager provides the user an easy interface to change any settings related to the wireless adapter. Clicking on the Wireless Connection Manager icon on the desktop will start the Configuration.

If you are using Windows® 7, Vista®, or XP, please skip to pages 27, 28 or 29 respectively.

Double-click the **Wireless Connection Manager** icon on your desktop.

Wireless Networks

The Wireless Networks (Site Survey) page will display all wireless networks that are available in your area. To connect to a network, simply highlight the wireless network (SSID) and click **Connect**.

SSID: The SSID (Service Set Identifier) is the name of the wireless network.

MAC: Displays the MAC address of the wireless device.

Signal: Displays the Link Quality of the wireless connection.

Security: If there is a "lock" icon, this means the wireless network is secure. You must know the encryption key/security settings to connect.

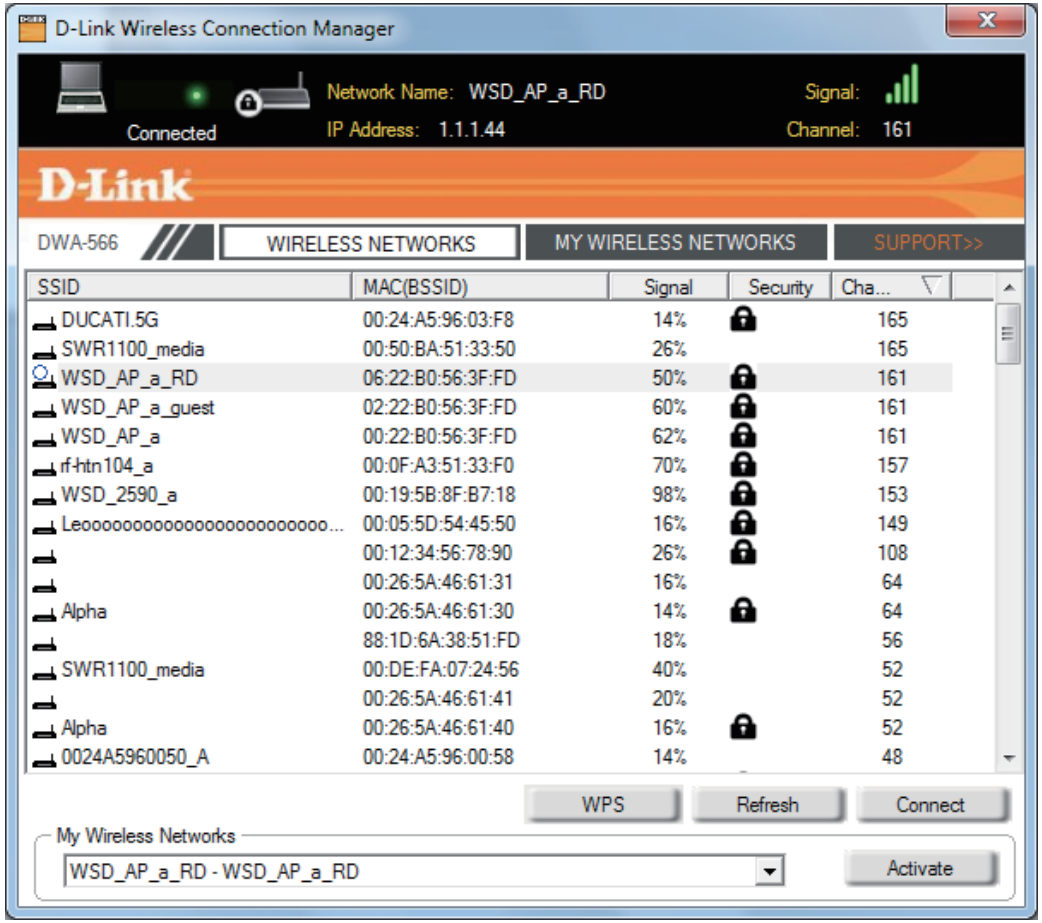
Channel: Displays the channel of the wireless network.

WPS Button: Connect to a wireless network using Wi-Fi® Protected Setup. Refer to the next page.

Refresh Button: Rescans for available wireless networks in your area.

Connect Button: Highlight a wireless network and click the **Connect** button. If the network is secure, a pop-up window will appear. Enter the security information to connect (refer to the ***Wireless Security*** section for more information).

Activate Button: Select a wireless network profile from the drop-down menu and click **Activate** to connect. Allow up to 30 seconds to connect.



My Wireless Networks

The My Wireless Networks page will allow you to create, edit, and delete wireless network profiles. Every time you connect to a network using the *Wireless Networks* page, a profile will automatically be created.

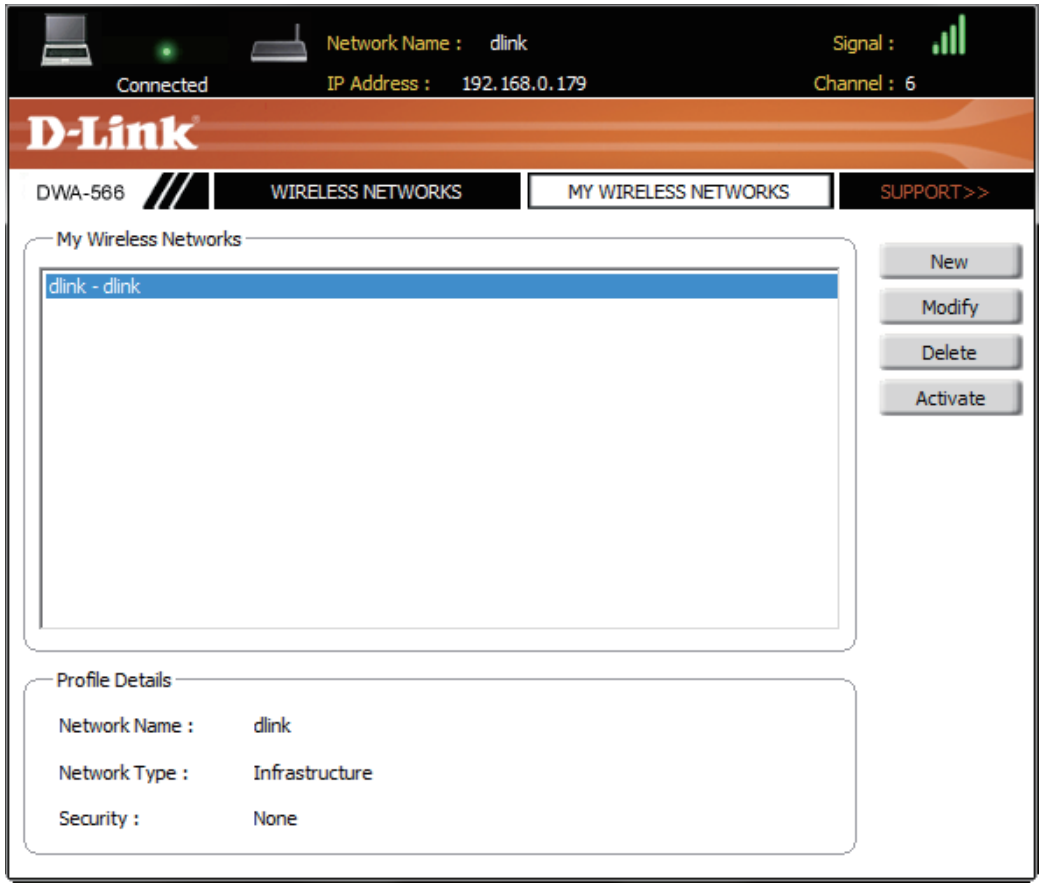
New Button: Click **New** to create a new wireless network profile (refer to page 23).

Modify: Click **Modify** to edit a current profile (refer to page 24).

Delete: Click **Delete** to remove a profile.

Activate: Click **Activate** to use a profile. Allow up to 30 seconds to connect to the wireless network.

Profile Details: The Profile Details section will display information about the wireless network such as the network name (SSID), network type (Infrastructure or Ad-Hoc), and if the network is secured.



Add Profile

You may add a new network by clicking the **New** button from the *My Wireless Networks* page.

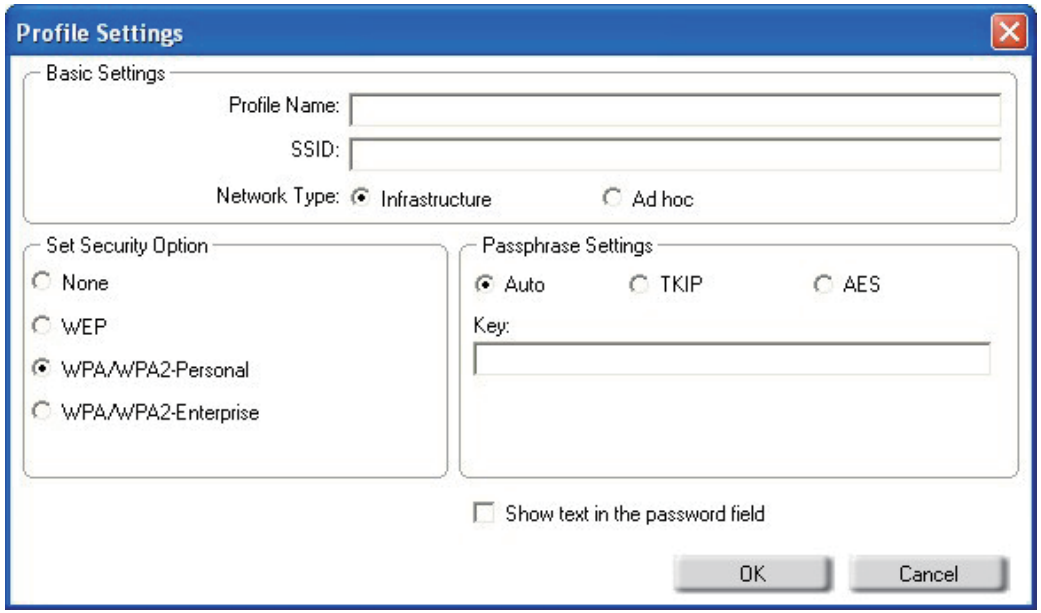
Profile Name: Enter a name for your profile (e.g. Home, Office, Coffee Shop).

SSID: Enter the SSID of the wireless network.

Network Type: If you are connecting to a wireless router or access point, select **Infrastructure**. If you are connecting to another wireless client such as an adapter, select **Ad-Hoc**.

Set Security: Select the type of security used. Please refer to the **Wireless Security** section for more information.

OK Button: Click **OK** to save your settings.



Modify Profile

You may edit an existing profile by clicking the **Modify** button from the *My Wireless Networks* page.

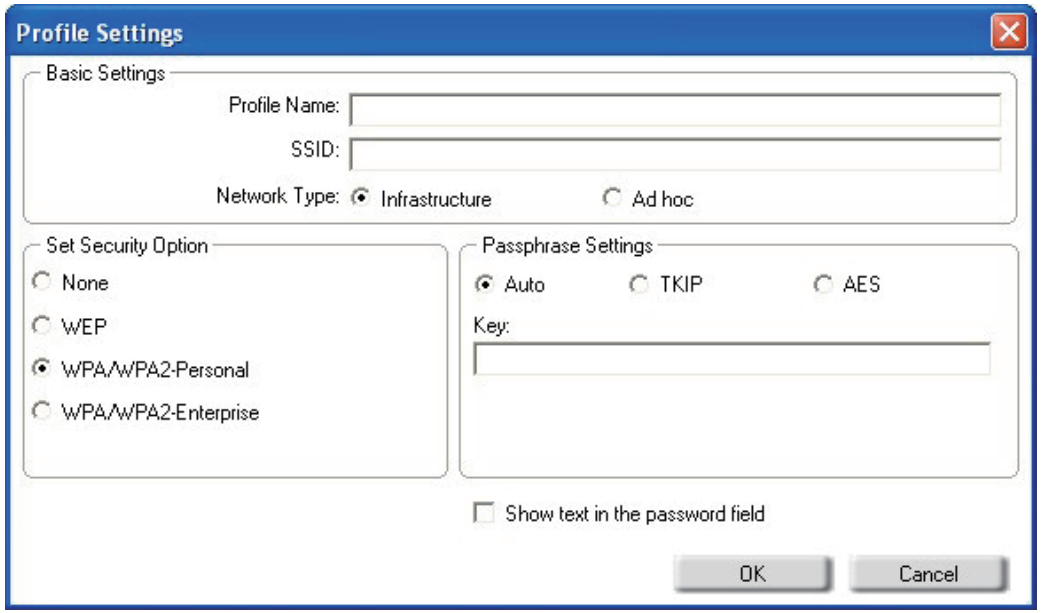
Profile Name: Enter a name for your profile (e.g. Home, Office, Coffee Shop).

SSID: Displays the SSID of the network.

Network Type: Displays the network type.

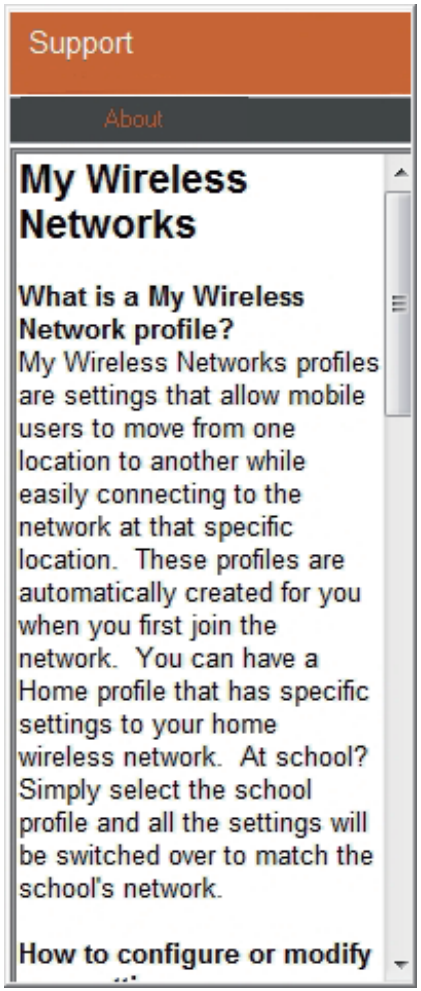
Set Security: Select the type of security used. Please refer to the **Wireless Security** section for more information.

OK Button: Click **OK** to save your settings.



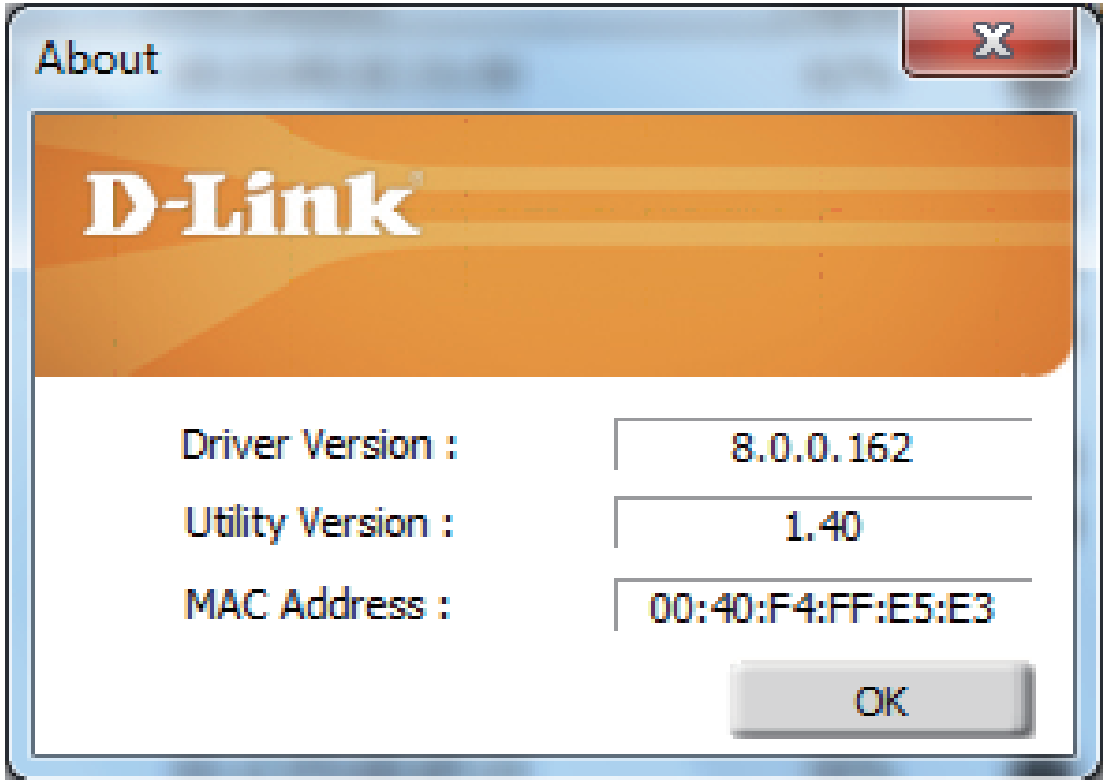
Support

If you need help, click the **Support** button. A panel will appear to the right of the utility which will display information about the utility.



About

The About screen gives you information about the Firmware and Utility Versions of the Dwa-582.



Connect to a Wireless Network Using Windows® 7

Windows 7 users may use the built-in wireless utility. If you are using another company's utility or Windows 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows® 7 utility as seen below.

If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

Left-click the wireless icon in your system tray (lower-right corner next to the time).

The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.

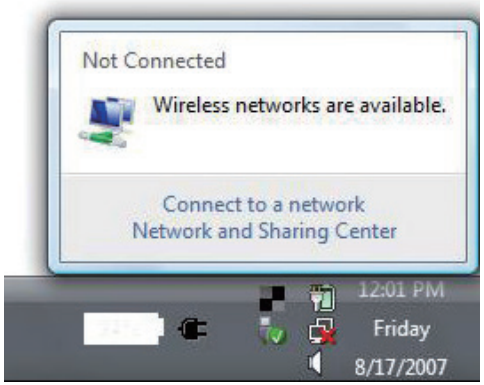
Connect to a Wireless Network
Using Windows Vista®

Windows Vista users may use the built-in wireless utility. If you are using another company's utility or Windows 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows Vista® utility as seen below.

If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

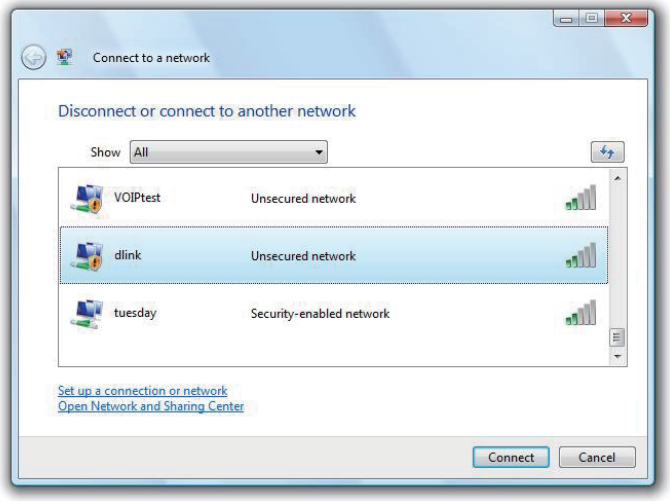
or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **Connect to a network**.



The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

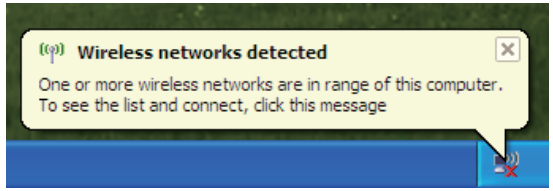
If you get a good signal but cannot access the Internet, check the TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



Connect to a Wireless Network Using Windows® XP

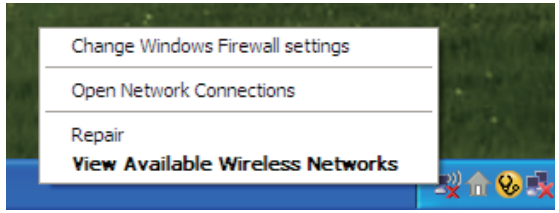
Windows XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility or Windows 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows XP utility as seen below.

If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

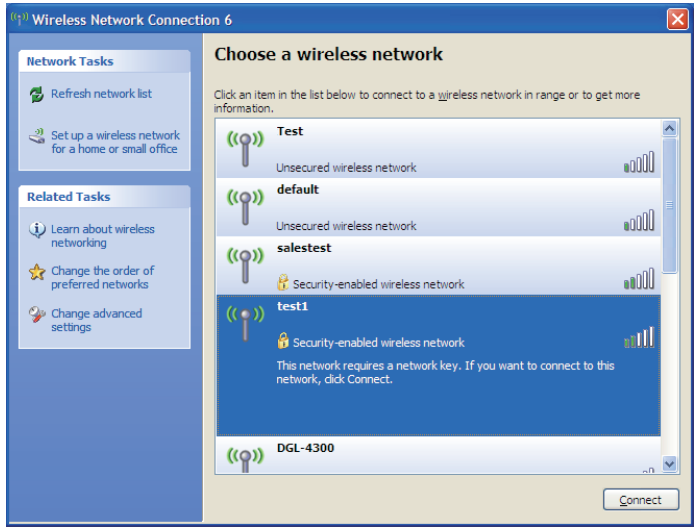


or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **View Available Wireless Networks**.



The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.



If you get a good signal but cannot access the Internet, check the TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The Dwa-582 offers the following types of security:

- WPA/WPA2-Personal
- WPA/WPA2-Enterprise

What is WPA™?

WPA, or Wi-Fi® Protected Access, is a Wi-Fi standard that was designed to improve the security features of WEP (Wired Equivalent Privacy).

The 2 major improvements over WEP:

- Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. WPA2™ is based on 802.11i and uses Advanced Encryption Standard instead of TKIP.

- User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA/WPA2-Personal uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. This key must be the exact same key entered on your wireless router or access point.

WPA/WPA2-Enterprise incorporates user authentication through the Extensible Authentication Protocol (EAP). EAP is built on a more secure public key encryption system to ensure that only authorized network users can access the network.

Configure WPA/WPA2-Personal
Using the D-Link Utility

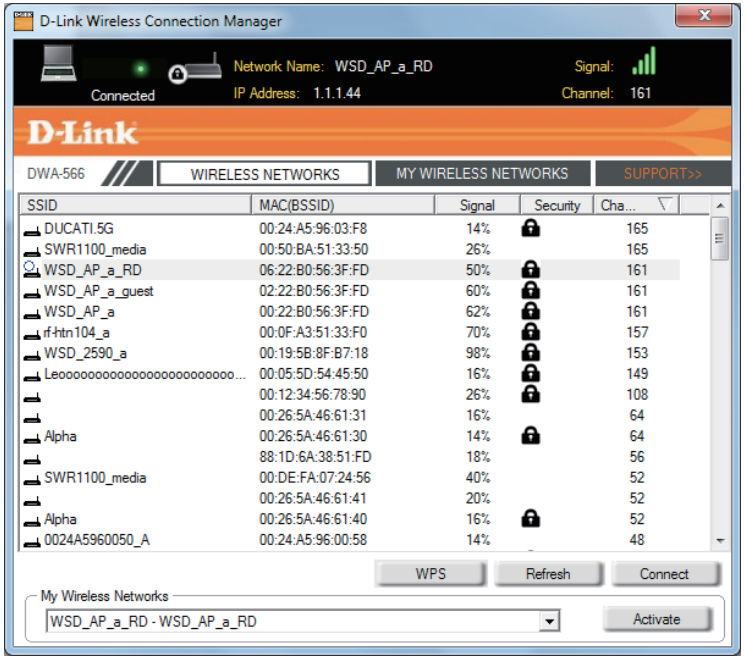
It is recommended to enable WPA/WPA2-Personal on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA/WPA2-Personal passphrase being used.

1. Open the Wireless Connection Manager by double-clicking on the D-Link icon on your desktop.

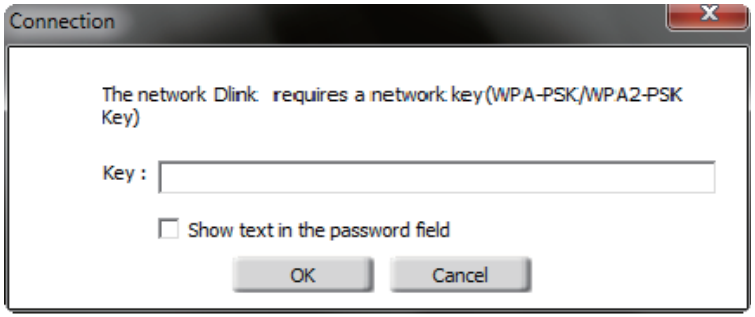
2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**. If the network is using WPA/WPA2-Personal, the screen (as shown to the bottom-right) will appear.

3. Enter the WPA/WPA2-Personal passphrase exactly as it is on your wireless router or access point. Click the **Show text in the password field** box to see the passphrase. Unchecking it will hide it.

4. Click **OK** to connect to the network. Allow up to 30 seconds to connect.



If you would like to create a new network and enter the WPA/WPA2-Personal settings, refer to the next page.



It is recommended to enable WPA/WPA2-Personal on your wireless router or access point before configuring your wireless adapter. Make sure you enter the passphrase exactly the same on all wireless devices.

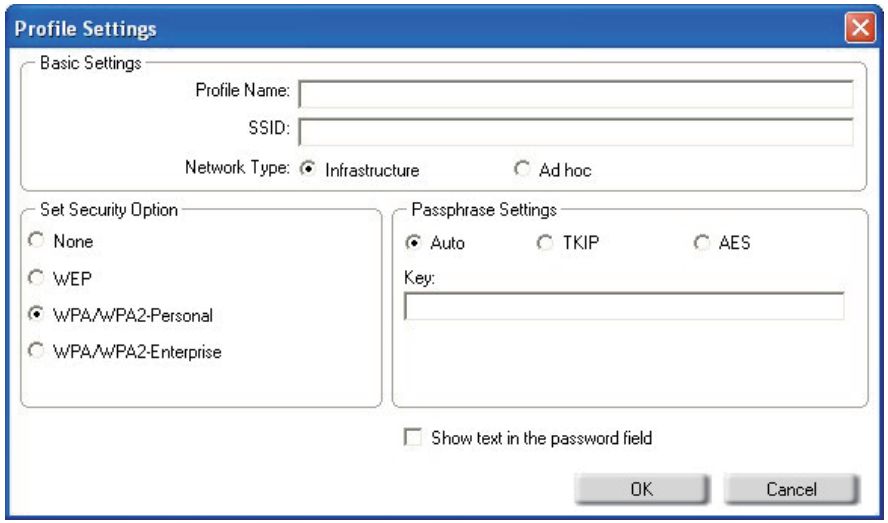
1. Open the Wireless Connection Manager by double-clicking on the D-Link icon on your desktop. Click on **New** to create a new profile or highlight an existing profile and click **Modify**.

2. Select **WPA/WPA2-Personal** under *Set Security Option*.

3. Select **TKIP** or **AES,** or **Auto**.

4. Enter the passphrase exactly as it is on your wireless router or access point.

5. Click **OK** to connect to the network. Allow up to 30 seconds to connect.

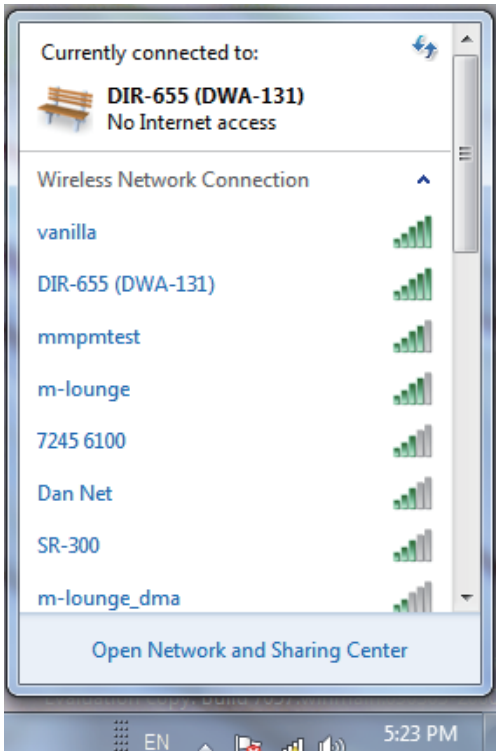


Configure WPA/WPA2 Personal
Using Windows® 7

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key or passphrase being used.

1. Click on the wireless icon in your system tray (lower-right corner).

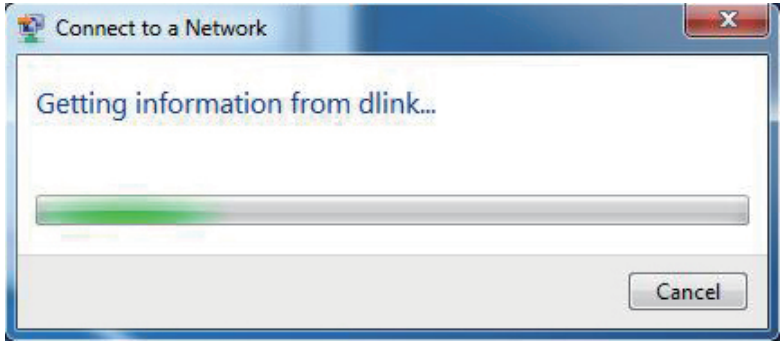
2. The utility will display any available wireless networks in your area.



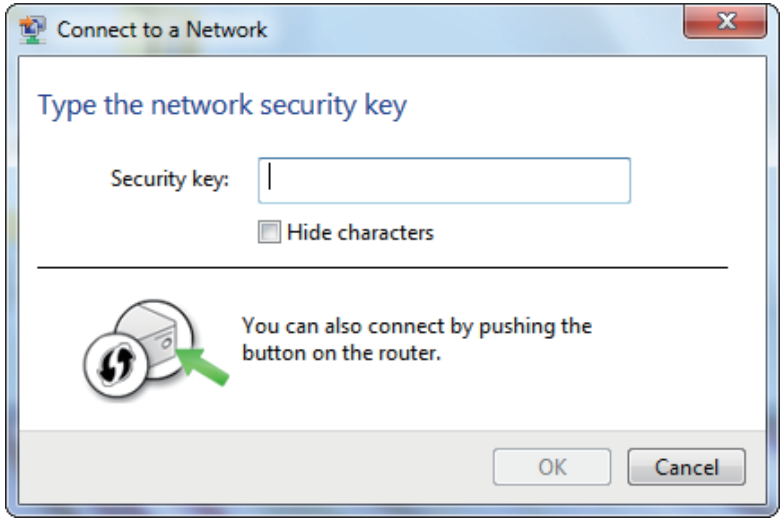
3. Highlight the wireless network (SSID) you would like to connect to and click the Connect button.

   If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.

4. The following window appears while your computer tries to connect to the router.



5. Enter the same security key or passphrase that is on your router and click **Connect**. You can also connect by pushing the WPS button on the router.

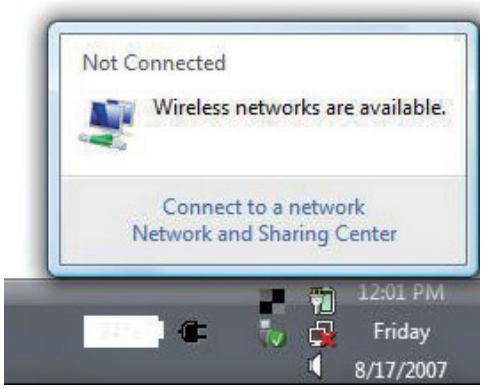


It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.

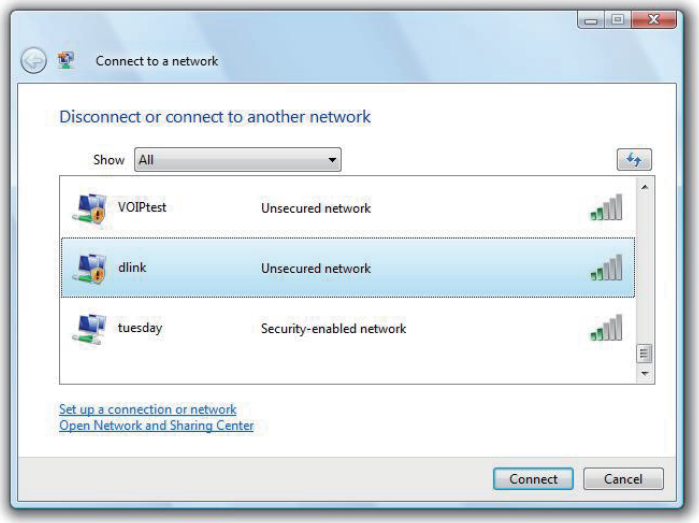
Configure WPA/WPA-Personal
Using Windows Vista®

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key or passphrase being used.

1. Open the Windows Vista® Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower right corner of screen). Select **Connect to a network**.



2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



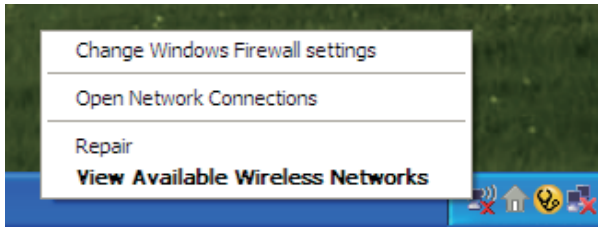
3. Enter the same security key or passphrase that is on your router and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.

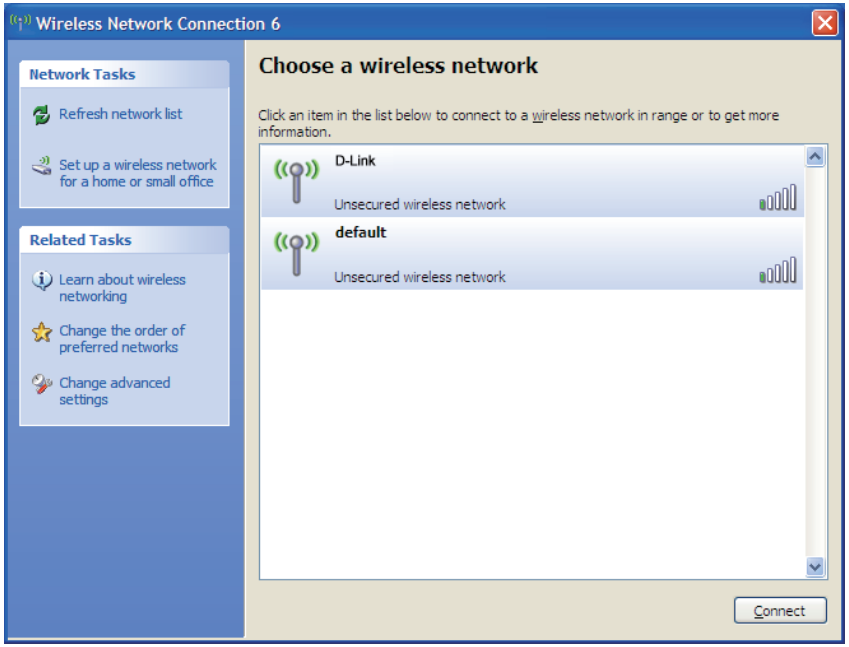
Configure WPA/WPA2-Personal
Using Windows® XP

It is recommended to enable WPA/WPA2-Personal on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA/WPA2-Personal key being used.

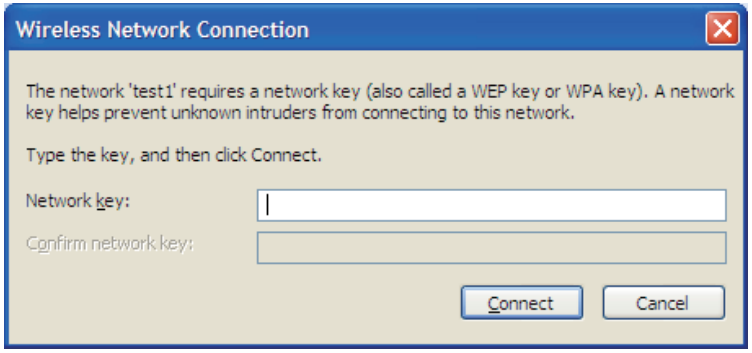
1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.



2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



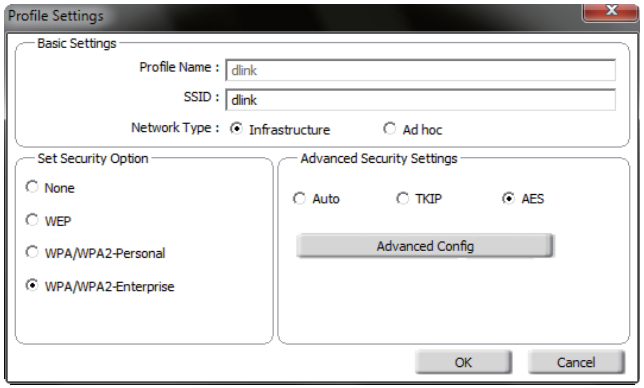
3. The **Wireless Network Connection** box will appear. Enter the WPA/WPA2-Personal passphrase and click **Connect**.



It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WPA/WPA2-Personal settings are correct. The WPA/WPA2-Personal passphrase must be exactly the same as on the wireless router or access point.

Configure WPA/WPA2-Enterprise
Using the D-Link Utility

WPA/WPA2-Enterprise is for advanced users who are familiar with using a RADIUS server and setting up certificates.



1. Open the Wireless Connection Manager by double-clicking on the D-Link icon on your desktop. Click on **New** to create a new profile or highlight an existing profile and click **Modify**.

2. Select **WPA/WPA2-Enterprise** under *Set Security Option* and then select **TKIP** or **AES**.

3. Click on **Advanced Config** to continue.

4. Next to *EAP Type*, select **EAP-TLS**, **EAP-TTLS**, or **PEAP**. Extensible Authentication Protocols allow devices on the network to request authentication from the RADIUS server in the network. All the devices on the network must use the same EAP type when using a RADIUS server for authentication. Some RADIUS servers require that the Validate Server field be selected. Check this field if your RADIUS server requires validation.

5. Select an **User Certificate** from the drop-down menu.

6. Enter the login information required to authenticate.

7. Click **Add** to enter the IP address(es) of your RADIUS servers.

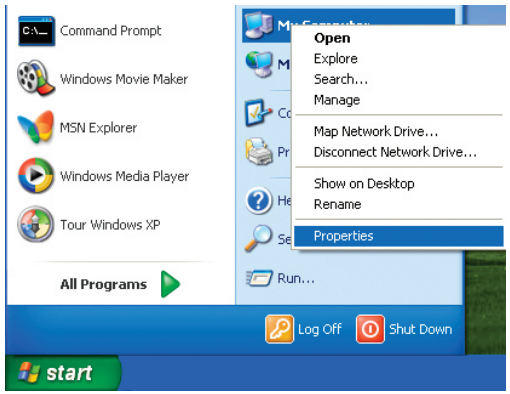
8. Click **OK** to save your settings.

Troubleshooting

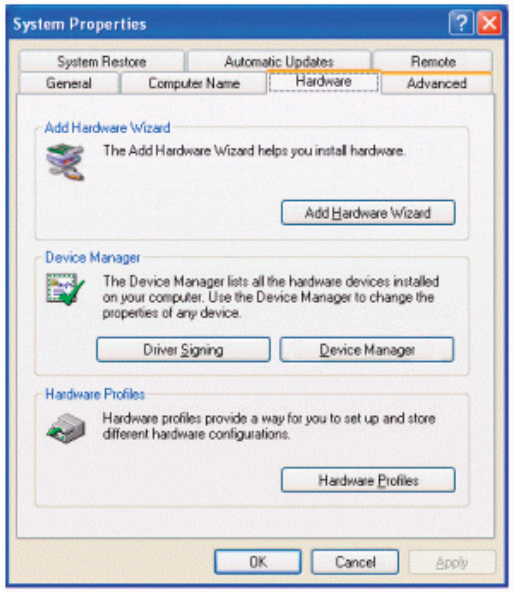
This chapter provides solutions to problems that can occur during the installation and operation of the Dwa-582. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

1. How do I know if my adapter is installed properly?

Go to **Start** > **My Computer** > **Properties.**



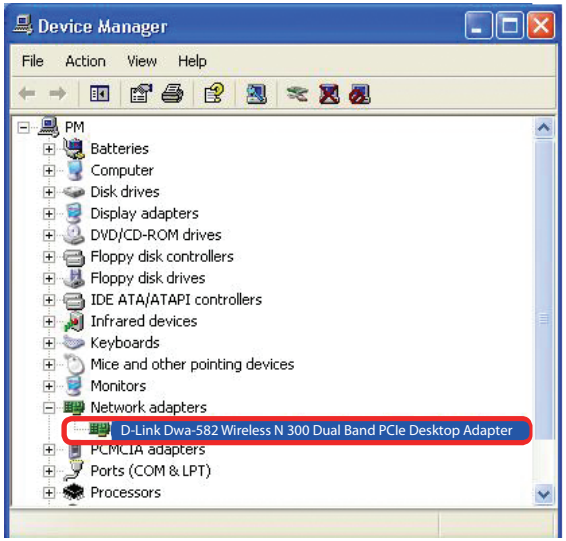
Select the **Hardware Tab.**



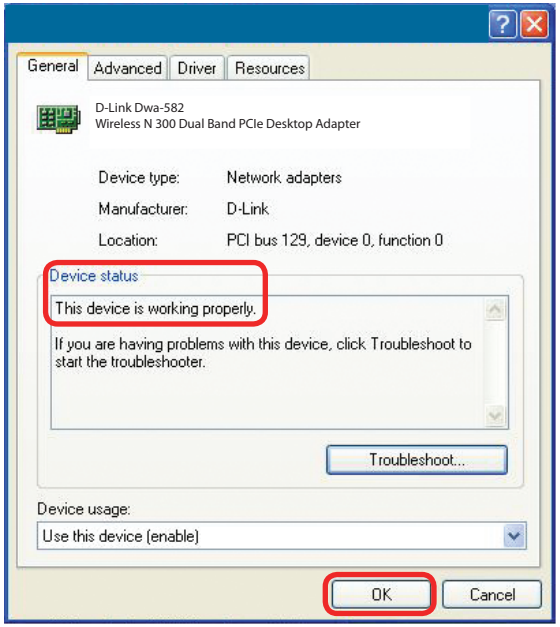
Click the **+** sign next to **Network Adapters.**

Right-click on **D-Link Dwa-582 Wireless AC1200 Dual Band PCI Express Adapter .**

Select **Properties** to check that the drivers are installed properly.



Look under **Device Status** to check that the device is working properly. Click **OK** to continue.



2. I cannot connect to the access point or the wireless router.

- Make sure that the SSID on the Dwa-582 Wireless AC1200 Dual Band PCI Express Adapter is exactly the same as the SSID on the Access Point or wireless router.
- Move the Dwa-582 and Access Point or Wireless router into the same room and then test the wireless connection.
- Disable all security settings. (WEP, MAC Address Control, AES)
- Make sure that the Radio is not locked down to a different frequency
- Turn off your Access Point and the computer with the Dwa-582. Turn on the Access Point, and then turn on the computer with the Dwa-582.
- Refresh the Dwa-582 Utility

3. The Dwa-582 Power and Link lights are not on.

- Check to see if the Dwa-582 desktop adapter is firmly inserted into the PCI Express slot of your laptop computer.

4. I forgot my encryption key.

- Reset the Access Point to its factory default settings and restore the Dwa-582 Wireless N 300 Dual Band PCIe Desktop Adapter to the factory default settings. The default settings are listed in the Configuration section in this manual.

5. The computer does not recognize the Dwa-582 Wireless Adapter.

- Make sure that the Dwa-582 Wireless Adapter is properly seated in the computer's PCI Express slot.
- If Windows does not detect the hardware upon insertion of the adapter, make sure to completely remove drivers that were previously loaded. To remove the drivers, do the following:

  A. Under **Tools** > select **Folder Options…** > select **View** > under Hidden files and folders > select Show hidden files and folders.

  B. Uncheck **Hide extension for known file types** > click on **Apply**

  C. Search for previously loaded driver files. Remove these files from the INF and SYSTEM (DRIVERS) folders in the Windows directory. ***Note:*** *Windows® XP and 2000 will rename .inf files that have not received WHQL certification into oem.inf files (e.g., oem1.inf).*

6. The computer with the Dwa-582 installed is unable to connect to the wireless network and/or the Internet.

- Check that the LED indicators for the broadband modem are indicating normal activity. If not, there may be a problem with the broadband connection.
- Check that the LED indicators on the wireless router are functioning properly. If not, check that the AC power and Ethernet cables are firmly connected.
- Check that the IP Address, subnet mask, gateway, and DNS settings are correctly entered for the network.

- In **Infrastructure** mode, make sure the same Service Set Identifier (SSID) is specified on the settings for the wireless clients and access points. The SSID factory default setting for D-Link products is default.

- In **Ad-Hoc** mode, both wireless clients will need to have the same **SSID**. Please note that it might be necessary to set up one client to establish a **BSS (Basic Service Set)** and wait briefly before setting up other clients. This prevents several clients from trying to establish a **BSS** at the same time, which can result in multiple singular **BSSs** being established, rather than a single **BSS** with multiple clients associated to it.

- Check that the **Network Connection** for the wireless client is configured properly. Select **AP (Infrastructure)** when connecting to an access point and select **Ad-Hoc mode** when connecting without an access point. Double-click on the **WLAN icon** in the taskbar > click on **Configuration** to change the settings for the wireless adapter.

- If **Security** is enabled, make sure that the correct encryption keys are entered on both the Dwa-582 and the access point. Double-click on the **WLAN** icon in the taskbar > click **Encryption**. Check to see that the key selected is set to the same key as other devices on the network.

7. How can I troubleshoot distance issues using the Dwa-582?

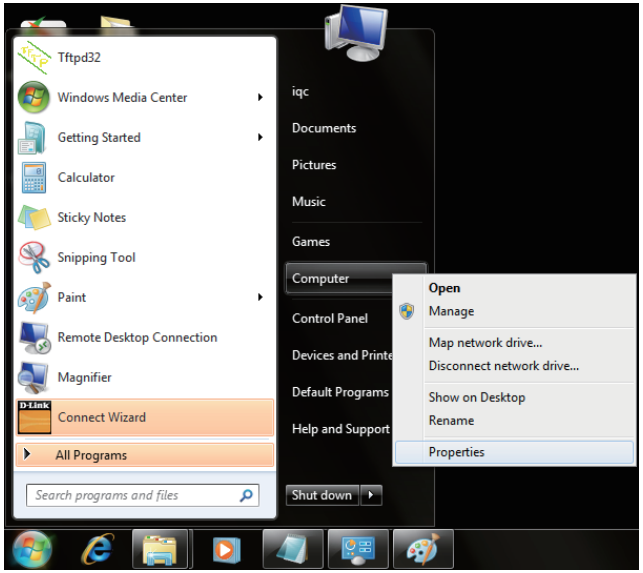
- Move the Dwa-582 and Access Point or Wireless router into the same room and then test the wireless connection.

- Change the channel of the Access Point.

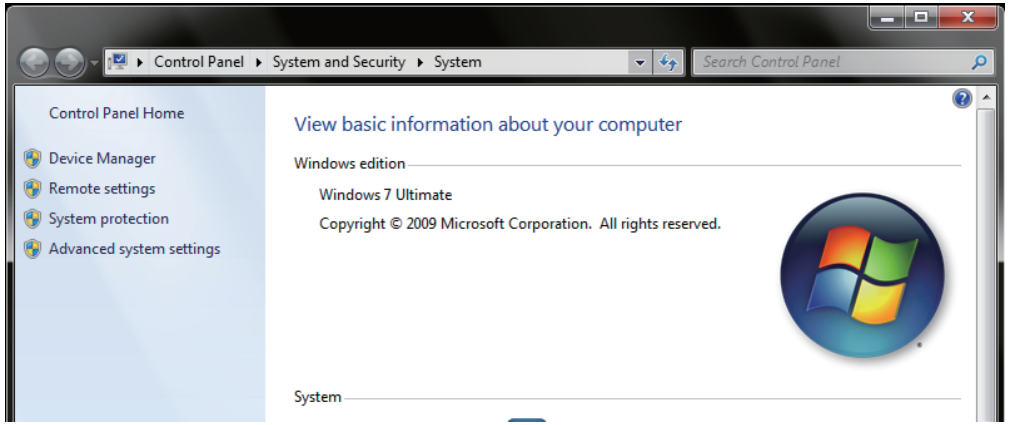
- Move devices within the line of sight.

Windows® 7 Troubleshooting

Go to **Start** > **Computer** > **Properties.**



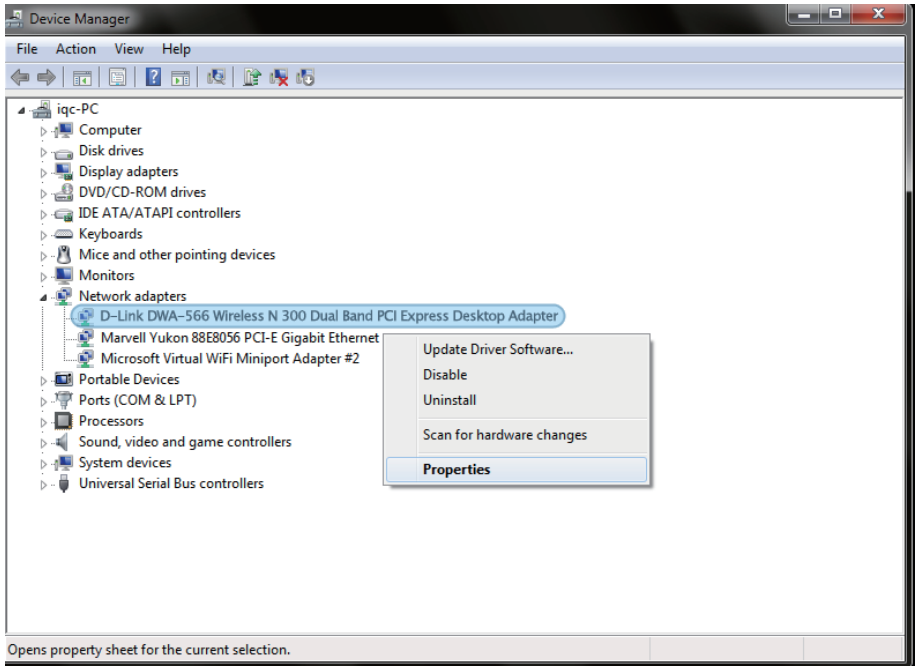
Select the **Device Manager**



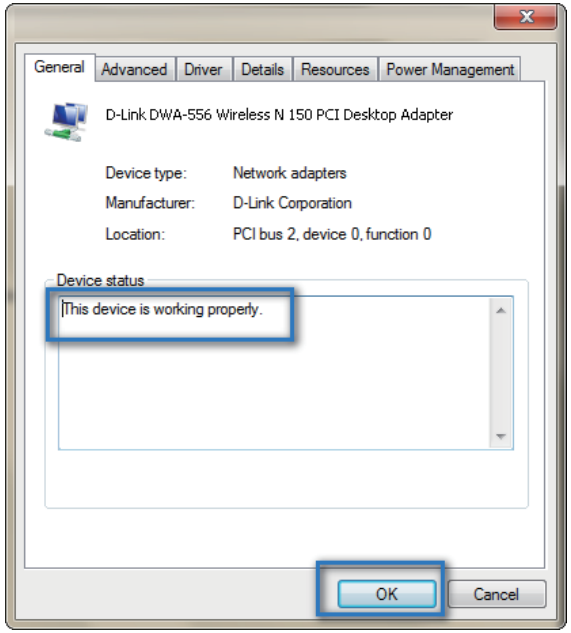
Click the + sign next to **Network Adapters.**

Right-click on **Dwa-582 Wireless N 300 Dual Band PCIe Desktop Adapter .**

Select **Properties** to check that the drivers are installed properly.



Look under **Device Status** to check that the device is working properly. Click **OK** to continue.



Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the D-Link wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Router is a device used to provide this link.

What is Wireless?

Wireless or Wi-Fi technology is another way of connecting your computer to the network without using wires. Wi-Fi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office network.

Why D-Link Wireless?

D-Link is the worldwide leader and award winning designer, developer, and manufacturer of networking products. D-Link delivers the performance you need at a price you can afford. D-Link has all the products you need to build your network.

How does wireless work?

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point as seen in the picture, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

Wireless Personal Area Network (WPAN)

Bluetooth is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away.

Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

Who uses wireless?

Wireless technology as become so popular in recent years that almost everyone is using it, whether it's for home, office, business, D-Link has a wireless solution for it.

Home

- Gives everyone at home broadband access
- Surf the web, check email, instant message, and etc
- Gets rid of the cables around the house
- Simple and easy to use

Small Office and Home Office

- Stay on top of everything at home as you would at office
- Remotely access your office network from home
- Share Internet connection and printer with multiple computers
- No need to dedicate office space

Where is wireless used?

Wireless technology is expanding everywhere not just at home or office. People like the freedom of mobility and it's becoming so popular that more and more public facilities now provide wireless access to attract people. The wireless connection in public places is usually called "hotspots".

Using a D-Link wireless desktop adapter with your laptop, you can access the hotspot to connect to Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless network is easy to setup, but if you're installing it for the first time it could be quite a task not knowing where to start. That's why we've put together a few setup steps and tips to help you through the process of setting up a wireless network.

Tips

Here are a few things to keep in mind, when you install a wireless network.

Centralize your router or Access Point

Make sure you place the router/access point in a centralized location within your network for the best performance. Try to place the router/access point as high as possible in the room, so the signal gets dispersed throughout your home. If you have a two-story home, you may need a repeater to boost the signal to extend the range.

Eliminate Interference

Place home appliances such as cordless telephones, microwaves, and televisions as far away as possible from the router/access point. This would significantly reduce any interference that the appliances might cause since they operate on same frequency.

Security

Don't let your next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the router. Refer to product manual for detail information on how to set it up.

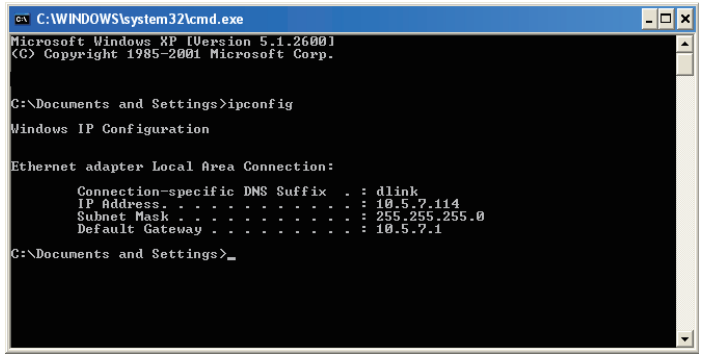
Networking Basics

Check your IP address

After you install your new D-Link wireless adapter and have established a wireless connection, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. router) automatically. To verify your IP address, please follow the steps below.

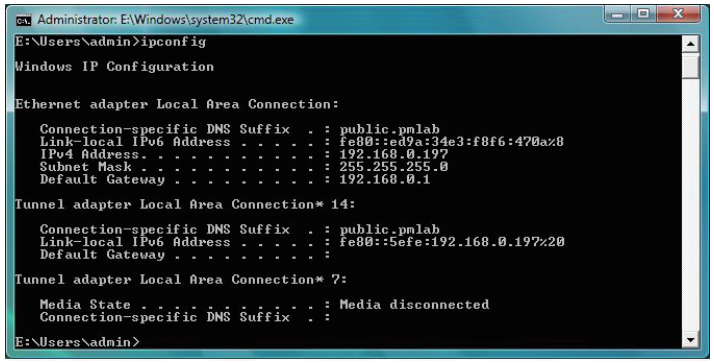
Windows® XP/2000 Users

- Click on **Start** > **Run**. In the run box type ***cmd*** and click **OK**.
- At the prompt, type ***ipconfig*** and press **Enter**.
- This will display the IP address, subnet mask, and the default gateway of your adapter.



Windows 7/Vista® Users

- Click **Start** > **All Programs** > **Accessories** > **Command Prompt**. You may need administrative access to run this application.
- For all additional prompt windows inquiring of running the command prompt application, select **Yes**, **OK**, or **Continue**.
- At the prompt, type *ipconfig* and press **Enter**.
- This will display the IP address, subnet mask, and default gateway of your adapter.



If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

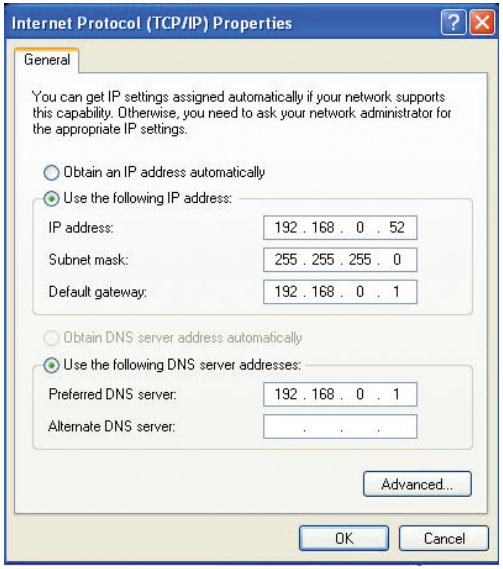
Statically Assign an IP address

If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

Windows® XP/2000 Users

- **Windows® XP** - Click on **Start** > **Control Panel**. Make sure you are in Classic View. Double-click on the Network Connections icon.
  Windows® 2000 – From the desktop, right-click **My Network Places** > **Properties**.
- Right-click on the **Local Area Connection** which represents your D-Link wireless network adapter (or other adapter) which will be connected to your router.
- Highlight **Internet Protocol (TCP/IP)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router.

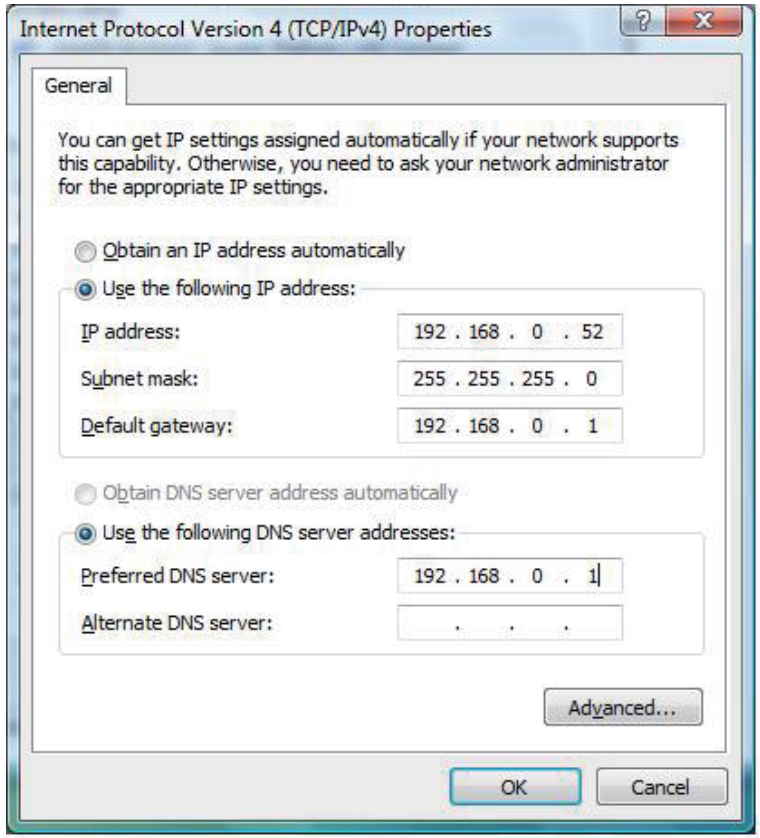
  Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.
- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** the same as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.



Windows 7/Vista® Users

- Click on **Start** > **Control Panel** (make sure you are in Classic View). Double-click on the **Network and Sharing Center** icon. If you are using Windows Vista, click on **Manage network connections** along the left panel in the window. For Windows 7, click on **Change adapter settings**.
- Right-click on the **Local Area Connection** which represents your D-Link wireless network adapter which will be connected to your network.
- Highlight **Internet Protocol Version 4 (TCP /IPv4)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router or network.

  Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.
- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** the same as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.



Technical Specifications

Standards*

- IEEE 802.11g
- IEEE 802.11n
- IEEE 802.11a

Security

- Wi-Fi Protected Access (WPA™ & WPA2™)
- 64/128-bit WEP
- Wi-Fi Protected Setup - PIN & PBC

Frequency Range

- 2.4GHz to 2.483GHz
- 5.15GHz to 5.35GHz

External Antenna Type

- Dipole with detachable reverse SMA connector

Operating Temperature

- 0 to 40 ºC (32 to 104 ˚F)

Humidity

- 95% maximum (non-condensing)

Dimensions

- L = 63.5mm (2.5inches)
- W = 55mm (2.2inches)
- H = 11.42mm (0.4inches)

Weight

- 42.5 g (1.5 oz)

Warranty

- 1 Year Limited

*Maximum wireless signal rate derived from IEEE Standard 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Industry Canada statement:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Caution :
(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
(ii) high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Avertissement:
(i) les dispositifs fonctionnant dans la bande 5 150-5 250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
(ii) De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250-5 350 MHz et 5 650-5 850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Radiation Exposure Statement:
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:
Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

This device has been designed to operate with a Dipole antenna have a maximum gain of 4.5 dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter (IC: 4216A-WA582A1 / Model: DWA-582A1) has been approved by Industry Canada to operate with the antenna type, maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this user’s manual, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Ce dispositif a été conçu pour fonctionner avec une antenne ayant un gain maximal de Dipole antenne avec dB 4.5. Une antenne à gain plus élevé est strictement interdite par les règlements d'Industrie Canada. L'impédance d'antenne requise est de 50 ohms.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peutfonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pourl'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectriqueà l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que lapuissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire àl'établissement d'une communication satisfaisante.

Le présent émetteur radio (IC: 4216A-WA582A1 / Modèle: DWA-582A1) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.